

## **REMARKS**

Claims 1, 13, and 16 have been amended in the present application. No new subject matter has been introduced by way of these amendments. Accordingly, claims 1 and 3-20 are pending in the present application. Reconsideration of the application is respectfully requested of the Examiner.

Claims 1, 3, 12, and 16-17 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Gurusami, et al. (U.S. Patent No. 6,031,846) in view of Valencia (U. S. Patent No. 6,650,652) and further in view of Ellis et al (U.S. Patent No. 5,497,371). Applicants respectfully traverse this rejection in view of the amendments and remarks set forth below.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Independent claims 1 and 16 set forth techniques for transmitting delay sensitive information (DSI) over a communication link of a communication network. In particular, independent claims 1 and 16 set forth transmitting an initial DSI after applying a delay to the initial DSI where such delay is based on a determined periodicity of received DSI.

As defined in the specification and in accordance with common usage in the art, "delay sensitive information" is information that needs to be transmitted without significant delays between different portions of the information. If the delays between different portions of the transmitted information become too large, then the information may not be interpreted in a correct or desirable manner. For example, voice transmissions are typically delay sensitive because delays between portions of the voice transmission may cause the received voice transmission to sound unnatural or unintelligible. In contrast, "non-delay sensitive information"

is information that is not substantially affected by delays in transmission. For example, data used to form the image of a webpage may not be delay sensitive.

The term "periodicity" is a well-known term that indicates a time period for recurrence of a particular phenomenon. In the context of the present application, and as defined in the specification, the periodicity is the basic timing relationship between consecutive packets or groups of packets produced by sampling DSI signals (such as voice signals) at a predetermined sampling rate. See Patent Application, page 10, ll. 9-21.

Gurusami is concerned with applying Time Division Multiple Access (TDMA) communications to bidirectional cable TV systems. Gurusami notes that the length of the time slots allocated for transmission and/or reception should be long enough to allow for the range of propagation times between the transmitters and the receivers. See Gurusami, col. 2, ll. 1-33. Gurusami alleges that the gap between messages may be reduced by delaying transmissions for a time that is determined based upon a round-trip travel time between a transmitter and a receiver. See Gurusami, col. 4, line 55 – col. 5, line 35 and Figure 8. However, as admitted by the Examiner, Gurusami is not concerned with "delay sensitive information" as this term is defined in the present application. Gurusami is only concerned with reducing the length of time slots (which may be used to transmit any type of information) in a TDMA communication system and is completely silent with regard to maintaining the timing constraints imposed by transmitting and receiving delay sensitive information, such as voice information.

Furthermore, Gurusami is completely silent with regard to any periodicities associated with transmission of non-delay sensitive information. Although Gurusami uses the term "period" on a number of occasions, Gurusami has used the term "period" to refer to a length of time, such as a delay time, but Gurusami does not refer to any phenomena that recur at a given

period. Thus, Gurusami does not describe or suggest any periodicity and, in particular, Gurusami does not describe or suggest any periodicity associated with the information transmitted in the time slots of the TDMA system. In the Office Action, the Examiner alleges that a periodicity is produced by consecutive packets being received by the receiver. However, Gurusami does not teach that there is any periodicity associated with these arrival times. To the contrary, Gurusami teaches that the round-trip delay depends upon the separation of the transmitter and receiver, which may be different for each combination of transmitter and receiver, and which may also change if either of these entities moves. See Gurusami, col. 1, line 60 - col. 2, line 33. Thus, Gurusami does not describe or suggest a periodicity associated with arrival times of the packets that are used to determine the delay factor.

The Examiner relies upon Valencia to describe latency-sensitive packets and latency-insensitive packets and Ellis to describe non-delay sensitive information being transmitted in packets having a defined length. However, neither of the secondary references remedy the fundamental deficiencies of Gurusami discussed herein.

Applicants therefore respectfully submit that the cited references fail to teach or suggest all limitations of the claimed invention. In particular, the references fail to teach or suggest transmitting an initial DSI after applying a delay to the initial DSI where such delay is based on a determined periodicity of received DSI, as set forth in independent claims 1 and 16. Furthermore, Applicants respectfully submit that the cited references fail to provide any suggestion or motivation to modify or combine the prior art of record to arrive at the claimed invention. As discussed above, the cited references are not concerned with maintaining the timing constraints imposed by delay sensitive information. Thus, the cited references do not provide any suggestion or motivation for transmitting an initial DSI after applying a delay to the

initial DSI where such delay is based on a determined periodicity of received DSI, as set forth in independent claims 1 and 16.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Gurusami, Valencia, and Ellis, either alone or in combination. Applicants request that the Examiner's rejections of claims 1, 3, 12, and 16-17 under 35 U.S.C. § 103(a) be withdrawn.

Claims 13-15 under 35 U.S.C. §103(a) stand rejected as being allegedly unpatentable over Gurusami in view of Ellis. The Examiner's rejections are respectfully traversed.

Independent claim 13 sets forth an apparatus for transmitting delay sensitive information (DSI) and non-delay sensitive information (NDSI) over a communication link of a communication network. The apparatus applies a delay to received initial DSI based on a determined periodicity of the initial received DSI and a defined length of NDSI being transmitted.

As discussed above, Gurusami is completely silent with regard to any periodicities associated with transmission of non-delay sensitive information and Ellis fails to remedy the fundamental deficiency of the primary reference. Thus, Applicants respectfully submit that the cited references fail to teach or suggest all limitations of the claimed invention. In particular, the references fail to teach or suggest applies a delay to received initial DSI based on a determined periodicity of the initial received DSI and a defined length of NDSI being transmitted, as set forth in independent claim 13. Furthermore, Applicants respectfully submit that the cited references fail to provide any suggestion or motivation to modify or combine the prior art of record to arrive at the claimed invention. As discussed above, the cited references are not concerned with maintaining the timing constraints imposed by delay sensitive information.

Thus, the cited references do not provide any suggestion or motivation applies a delay to received initial DSI based on a determined periodicity of the initial received DSI and a defined length of NDSI being transmitted, as set forth in independent claim 13.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Gurusami and Ellis, either alone or in combination. Applicants request that the Examiner's rejections of claims 13-15 under 35 U.S.C. § 103(a) be withdrawn.

In the Office Action, the Examiner indicated that claims 4-11 contain allowable subject matter, but objected to these claims as allegedly being dependent upon a rejected base claim. Pursuant to the amendments and arguments presented herein, Applicants respectfully submit that claims 4-11 are in condition for allowance and request that the Examiner's objections to these claims be withdrawn.

For the aforementioned reasons, it is respectfully submitted that all claims pending in the present application are in condition for allowance. The Examiner is invited to contact the undersigned at (713) 934-4089 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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